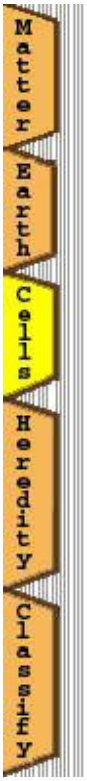
Wee Beasties



Standard 3200-03 Students will understand structure and function of cells and organisms**.**

Objective 3200-0302

- Investigate cellular structures and functions
- compare and contrast various cells

Intended Learning Outcomes:

- 1a. Make observations and measurements (uses instruments as appropriate).
- 1b. Develop and use categories to classify observations.
- 1d. Make estimations and predictions based on observations and current knowledge.
- 2e. Analyze data and draw warranted inferences.
- 4b. Understand how technological advances have influenced the progress of science, and how science has influenced developments in technology.
- 5b. Know basic science facts appropriate to grade level.
- 5c. Understand science concepts and principles.
- 6g. Evaluate the findings and conclusions reported by other investigators using relevant and defensible criteria.
- 7c. Understand that all science is based on observation of natural phenomena, but that all observations are influenced by the observers' prior knowledge, experience, and theoretical perspective.

Background:

Students should have prior knowledge about cell parts and their functions. See previous information in sci-ber text.

Summary:

- Students will observe an assortment of microscope slides and identify each as either Plant or Animal Cell. Prepared slides work best.
- Students will then explain why they have identified each as either a "Plant" or an "Animal".

Lab options:

1) Students identify cells by using individual microscopes.
2) Students identify cells from a video screen linked to a "flex cam" attached to a microscope and slides.
3) Students identify cells from a video screen linked via computer to Cell Photograph page.
4) Students identify cells from printed copies of the Cell Photograph page which is available as either a .htm or .pdf file (requires Adobe Acrobat). Get Acrobat Reader

Materials:

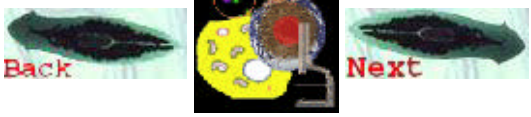
Lab Option #1	**Lab Option #2**
*Microscopes *Slides *Coverslips *Plant cell samples (root tips are best) *Animal cell samples such as skin, nerve, muscle, or cartilage *Stains (Iodine, Methylene Blue etc.) *Water droppers *Aprons *1 answer sheet per student .html file or .pdf file (requires Adobe Acrobat) Get Acrobat Reader	*Microscope *"Flex cam" *T.V. Or Video with "S-Video" Attachment *Plant/Animal Tissues or slides *1 answer sheet per student .html file or .pdf file (requires Adobe Acrobat) Get Acrobat Reader
Lab Option #3	**Lab Option #4**
*6 cells from video screen linked to computer using Cell Photograph page. *1 answer sheet per student .html file or .pdf file (requires Adobe Acrobat) Get Acrobat Reader	*6 prints of cells available as either a .htm or .pdf file (requires Adobe Acrobat). *1 answer sheet per student .html file or .pdf file (requires Adobe Acrobat) Get Acrobat Reader

Procedure:

- Obtain 6 different samples of cells from your teacher either video references, pictures, or actual cells from plant and animal tissues.
- Observe the characteristics that distinguish plant and animal cells.
- On your answer sheet (.html file or .pdf file)draw what you see on the circle provided (options 1-3)
- Label it as either a Plant or an Animal Cell.
- Explain why you have chosen the answer that you have based upon the differences between Plant and Animal cells.

Safety concerns:


Be sure to keep all Glass, Animal, and Sharp instrument Safety Rules that are specified by the teacher and in all general laboratory experiences.



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